

EDITORIAL ARTICLES.

PRIMARY CANCER OF THE EXTREMITIES.

Cancer of the extremities may be conveniently classed under three groups:

1. Developing in old cicatrices, ulcer and fistulæ, as the result of protracted irritation, inflammation, suppuration, and reactive tissue-formation. This class is by far the most numerous.

2. Developing in congenital warts or nævi, noted for their pronounced malignancy. Although they resemble sarcoma clinically, anatomically this form, which is of epithelial origin, is strictly defined.

3. Developing spontaneously without local predisposition or cause.

This paper¹ is based upon 39 cases of cancer of the extremities, that have been under the care of Prof. von Volkmann, at Halle, during the past 20 years, upon many cases communicated to the author personally, and all such cases as could, in medical literature, be positively identified as cancer, amounting in all to the considerable number of 223 cases.

Group 1.—Cases of the first group, as well as of the other two, are always of the epithelial variety of cancer. If we are dealing with a large ulcer or a granulating surface after a burn, that assumes a malignant character, the carcinomatous degeneration generally appears only at the borders of the wound-surface, which swell and assume a granulated and warty appearance. The center of the ulcer is not affected; sometimes, however, isolated patches of cancer also spring up in various parts of the granulating surface. If an ancient fistula leading to the bone becomes carcinomatous the change is manifested by an ele-

¹Ueber den primären Krebs der Extremitäten, von Dr. Rudolf Volkmann.

vation of the granulations lining its opening and by a thickening of the bone. If the growth develops as the result of prolonged irritation it frequently assumes the cauliflower appearance, and tends to hæmorrhage and profuse and offensive secretion, but does not penetrate into the deeper tissue and the bone substance, with the exception, perhaps, of the tibia. This bone is frequently invaded by the tumor, and occasionally becomes rarified to such an extent that a spontaneous fracture results from the most trivial injury. The group under consideration presents the most benign form of malignant degeneration. Of 128 cases collected by the author only 12 died from glandular infiltration or metastatic deposits after operation, and of 56 of those that were kept under observation for some time, 30 showed no recurrence after 2 years, and 10, none after 1 year. All kinds of lesions of the soft parts leading to ulceration and cicatrization form the basis for the development of cancer. Traumatic skin-defects, burns, frost-bite, complicated fractures with gangrene of the skin, chronic ulcers of the leg, syphilitic ulcers, in rare cases, corns and subungual suppurative processes and lupoid affections have led to late development of cancer of the extremities. The cancers arising in old fistulæ have quite a distinct clinical history. Volkmann has collected 32 cases. The patients have generally in their youth been the subjects of tubercular caries or acute infectious osteomyelitis. Fistulæ have remained, that have temporarily closed, but always opened again. Thus things have gone on for 20, 30, and 50 years. Such old fistulæ then present a peculiar appearance. The opening is not surrounded by a wall of small granulations; on the contrary, such are missing, and the surrounding skin is continued for some distance into the canal. This lining of epidermis sometimes reaches the bone and even penetrates it. It is generally in the deeper parts of such fistulæ that the growth begins to develop, sometimes filling the cavity of the bone and expanding it as a periostosis (*spina ventosa carcinomatosa*) so that nothing remains but a thin layer of cortical substance, liable at any moment to fracture.

The favorable prognosis of cases of this group has already been commented upon. The few cases that terminate unfavorably do so from extensive local recurrence of the disease or infiltration of the

neighboring glands. In only 2 instances were metastatic deposits found in internal organs.

Group 2.—This is prognostically the opposite of the first. Only 11 unequivocal cases were found by the author, many cases of sarcoma having been classed among them. They must likewise be distinguished from cancers developing in warts that have appeared in late life. Of this later variety Volkmann has tabulated 12 cases, which he treats as an annex to the second group. The prognosis is also here by far more favorable than in cases developing in congenital warts and naevi. The former generally spring up on the dorsal surface of the hand, sometimes in large numbers and are hard in contradistinction to the soft forms, which develop the very malignant cancers above alluded to. These hard warts only degenerate into cancer after being subjected to prolonged irritation, viz., scratching, cauterization, partial excision, evulsion, etc., a sign of their relative benignity. They form large ulcers with indurated borders, but rarely lead to infiltration of the lymphatic glands and are frequently, even in advanced cases, cured by excision only, not necessitating amputation. But to return to the malignant forms—we have here to deal with soft warts, sometimes pigmented, that are congenital or have developed very early in life; small, circumscribed growths, generally lying only in the papillary stratum and not pervading the entire cutis, and very rarely reaching even the subcutaneous tissue. The fleshy wart itself is made up of granulation-tissue, histologically identical with sarcoma. These remain stationary until late in life (40-60th year), when accompanied by a burning or itching sensation, they begin to increase in size. Scratching now generally causes them to ulcerate. At this stage they are most frequently removed by excision. The wound heals by first intention, but in a few months the nearest lymphatics begin to swell and the malady then runs a rapid and fatal course. If the glands or the recurrence at the seat of the original tumor are still removable, the growth will return almost immediately and the patients generally succumb to marasmus, cachexia or internal deposits within 1½ years from the beginning of the original increased growth.

Group 3.—These cases do not present any special characteristics.

Sometimes the tumors begin as ulcerations, or as little blisters or pustules, which soon transform into ulcers, increasing in size and resembling the first group. Clinically they seem to be somewhat more malignant than the latter, but still give a good prognosis. Of 14 cases, 7 were radically cured by operation, 2 have remained 2 years without recurrence, and 5 have ended fatally.

Of the grand total of 223 patients 140 were males and 65 females (18 times the sex is not stated). In the first group are found 94 males and only 29 females; in the second 5 males and 6 females, and in the third 12 males and 15 females.

The localization of the tumors was :

UPPER EXTREMITY	-	-	-	-	-	-	-	-	-	-	-	89
Humerus	-	-	-	-	-	-	-	-	-	-	-	14
Forearm	-	-	-	-	-	-	-	-	-	-	-	18
Dorsum of hand (fingers)	-	-	-	-	-	-	-	-	-	-	-	56
Palm of hand	-	-	-	-	-	-	-	-	-	-	-	1
LOWER EXTREMITY	-	-	-	-	-	-	-	-	-	-	-	134
Thigh	-	-	-	-	-	-	-	-	-	-	-	23
Leg	-	-	-	-	-	-	-	-	-	-	-	75
Dorsum of foot (toes)	-	-	-	-	-	-	-	-	-	-	-	19
Sole of foot (heel)	-	-	-	-	-	-	-	-	-	-	-	17
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The author concludes from his able monograph that "cancers of the extremities give 56% of definite cures after operation, barring the rare cases that develop in congenital warts; the latter, as it appears, terminate, without exception, fatally." In most instances of cancer of the extremities amputation is unnecessary, moreover, a thorough extirpation will result in permanent cure, if the bones have not been invaded or a spontaneous fracture has not occurred.

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SUPRAPUBIC LITHOTOMY IN RUSSIA.

Dr. Nikolas V. Solonika, of Tiflis, in an Inaugural Dissertation at St. Petersburg, published during the present year, has collected and analyzed 491 cases of suprapubic cystotomy made by Russian surgeons during the period from 1823 to 1888. The work of this author ap-